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Patent Application
Atty. Docket No. 25302A**REMARKS**

Initially, Applicants thank the Examiner for indicating that claims 30 and 31 are allowed, and that claim 29 would be allowable in independent form. As discussed herein, Applicants respectfully request reconsideration and withdrawal of the remaining rejections of record.

Status of the Claims

Claims 15-35 were pending, of which claims 30 and 31 are allowed, claims 15-28 and 32-35 are rejected, and claim 29 is objected to. By this amendment, claims 32-35 are canceled and replaced with new claims 36-38.

Response to Indefiniteness Rejections

Claims 15-28 and 32-35 are rejected under 35 USC § 112, ¶ 2, as allegedly being indefinite.

In claim 15, the definition of R³ is said to be incomplete. Applicants have amended claim 15 to include the language "ring heteroatoms" to further clarify the claim. Support for the amendment is present, e.g., in the original claims. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

In claims 27-28, the meaning of "1 to 3" heteroatoms is said to be indefinite. Applicants have amended the claims to further clarify that the definition refers to ring heteroatoms. Support for the amendment is present, e.g., in the original claims. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Claims 32 and 33 are said to be unclear as to whether they are compound or composition claims. In order to expedite prosecution, Applicants have replaced the rejected claims with new claims 36 and 37, which are believed to be in the Examiner's preferred format.

Claims 34 and 35 are said to lack a recitation of the amount administered. In order to expedite prosecution, Applicants have replaced claims 34 and 35 with new claims 38 and 39, which recite using an effective amount of compound.

Response to Enablement Rejection

Claims 34 and 35 are rejected under 35 USC § 112, ¶ 1, as allegedly lacking enablement. The rejection states that the claimed agonism and antagonism of 5-HT₄ have no utility because there was allegedly no established nexus between the mechanism and the recited diseases. The rejection further states that the degree of antagonism or agonism

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is not limited in the claims and is therefore not enabled. Applicants respectfully traverse the rejection.

By way of background, 5-HT₄ receptor agonists have been extensively examined and are known to be useful in a multitude of GI disorders. See, e.g., pp. 1-2 of the specification. Well-known examples include cisapride and terfenadine. A purpose of the present invention is to provide compounds that are at once (a) useful 5-HT₄ receptor agonists, and (b) exhibit relatively favorable QT prolongation. That is, Applicants' invention includes compounds that improve upon the properties of known 5-HT₄ agonists. See, e.g., p. 3 of the specification. Thus, 5-HT₄ is not a new target and agonism thereof is not, *per se*, a new mechanism for treating GI disorders.

Claims 34 and 35 have been canceled. New method claim 38 is presented. Claim 38 recites a method of treating the GI conditions gastroesophageal reflux disease, gastrointestinal disease, gastric motility disorder, upper gut motility disorder, non-ulcer dyspepsia, functional dyspepsia, irritable bowel syndrome, constipation, dyspepsia, esophagitis, gastroesophageal disease, or nausea, comprising administering to a mammal a compound of claim 15.

The primary basis for the rejection is that there is allegedly no known nexus between 5-HT₄ and the recited diseases. This assertion is not supported in the rejection and conflicts with what is disclosed in the specification and known in the art. First, Applicants note that the recited diseases of claim 38 are all GI diseases in which 5-HT₄ is known to be implicated. The cited article, *Barnes*, does not significantly pertain to the recited diseases. Moreover, it is accepted in the art that the recited conditions are susceptible to 5-HT₄ agonism. As noted above, cisapride and terfenadine are only two well-known examples of numerous known and effective 5-HT₄ agonists. See also pp. 1-2 of the specification and the citations therein. The present compounds improve the state of the art by providing, *inter alia*, compounds that are 5-HT₄ agonists with relatively low QT prolongation. With regard to the level of antagonism or dosage, the skilled artisan could optimize this parameter by routine experimentation and need not be specified in the claim.

In view of the above, reconsideration and withdrawal of the rejection are respectfully requested.

Response to Written Description Rejection

Claims 34 and 35 are rejected under 35 USC § 112, ¶ 1, as allegedly failing to comply with the written description requirement. The rejection states that a full description of the compounds as agonists or antagonists of 5-HT₄ receptors is not in the specification and that the claims reach out to as-yet unidentified diseases and conditions not described in

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the specification. Applicants respectfully traverse the rejection and submit that the claims are sufficiently described in the specification and claims as filed.

It is not disputed that the compounds of claim 15, which is not rejected on written description grounds, are sufficiently described in the specification. Moreover, the specification describes the compounds as 5-HT₄ receptor agonists (e.g., page 6) and describes their utility for the recited disease states (e.g., page 29). Thus, Applicants respectfully traverse the factual premise of the rejection that the claim reaches unidentified diseases and compounds or recites treatments not disclosed in the specification. The rejection does not appear to justify such assertions. Notwithstanding, the claimed invention at least meets the requirement of providing "some structure" in combination with disclosed or known function, and the skilled artisan would recognize that Applicants were in possession of the claimed invention. See Univ. California v. Eli Lilly, 119 F.3d 1559 (Fed. Cir. 1997). Clearly, the present case in no way falls into the category of fact patterns of a few biotech judicial decisions wherein written description rejections have been upheld for failure to describe the structure of the claimed compound. Such is not the case here. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

In view of the above, Applicants respectfully submit that all of the pending claims are allowable in their present form, and that the application is otherwise in condition for allowance. The Examiner is respectfully requested to withdraw the rejection and, as the next official action, to provide a Notice of Allowance.

If any issues remain which can be resolved by a telephone conference, or should the Examiner have any questions or comments regarding this matter, the Examiner is respectfully invited to contact the undersigned at the telephone number shown below.

Respectfully submitted,

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